

# SUBJECT INDEX

Vol. 140A, Nos. 1-4

- Acidic, 363
- Activity capacity, 53
- Adenosine, 111
- Adiponectin, 251
- Adipose tissue, 195
- Aerobic exercise, 409
- Aerobic training, 409
- Agar, 241
- Age, 141, 512
- Alectoris rufa*, 157
- Alginate, 241
- Allocation, 171
- Allometry, 477
- Alopex lagopus*, 251
- American mink, 195
- Aminopeptidase-N, 135
- Amnion, 19
- Amphibians, 165
- Amylase, 29
- Anaemia, 281
- Anaesthesia, 289
- Androgenic gland, 343
- Antarctic fish, 179
- Antioxidant, 487
- Atlantic salmon, 377
- ATP, 11
- ATP-citrate lyase, 117
- Atractosteus*, 423
- Ayu Plecoglossus altivelis*, 414
- Bank vole, 187
- Basal and digging metabolic rates, 329
- Bemisia argentifolii*, 59
- Bioassay, 343
- Biochemistry, 157
- Biomarker, 41
- Biomonitoring, 41
- Bird, 73
- Birds, 512
- Bivalves, 460
- Blood, 157
- Blood cell, 281
- Blood lactate, 409
- Blood pressure, 289
- Blue fox, 251
- Body mass, 157
- Body temperature, 101, 477
- Brain, 396
- Brainstem, 203
- Breathing pattern, 477
- Browser, 67
- Browsing ruminant, 436
- Brycon cephalus*, 337
- Bufo spinulosus*, 165
- $\delta^{13}\text{C}$ , 117
- Calcium affinity, 179
- Calcium-binding protein, 179
- Carbohydrate, 299
- Carbohydrate absorption, 241
- Carbohydrate digestion, 241
- Carbohydrates metabolism, 29
- Carnivores, 195
- Carotenoids, 430, 506
- Carrageenan, 241
- Catalase, 487
- Catecholamines, 289
- Cell culture, 187
- Ceratotherium simum*, 67
- Chameleon embryo, 19
- Chemical composition, 275
- Chemical potential, 387
- Chick, 203
- Cholesterol, 512
- Circadian patterns, 477
- Clams, 460
- CNS, 363
- Co-EDTA, 436
- Cold-acclimation, 217
- Columba livia*, 275
- Compartment models, 436
- Condensed tannins, 67
- Condition index, 41
- Continuous-flow respirometer, 445
- Control of breathing, 477
- Coral snake venoms, 125
- Corticosterone, 73
- Cortisol, 81, 317
- Cost-of-burrowing, 329
- Coturnix chinensis*, 101
- Crab, 495
- Creatine kinase, 225
- Critical thermal maximum, 141
- Cr-mordanted fibres, 436
- Crotalus*, 471
- Crude protein, 337
- Crustacea, 343, 495
- Crustacean, 89
- Crustacean hyperglycaemic hormone, 241
- CTMax, 141
- Cuticular lipid, 59
- Cytochrome *c* oxidase, 487
- Decapoda, 343
- Deferred maturity, 512
- Development, 111, 423, 495
- Diceros unicornis*, 67
- Digestive enzymes, 135, 165
- Digestive strategy, 436
- Digestive theory, 165
- Dimethyl alkanes, 59
- Dissolved oxygen, 387
- Ecto-nucleotidases, 111
- E-F hand protein, 179
- Egg yolk, 430, 506
- Elevation, 171
- Embryo, 452, 495
- Energetics, 53, 171
- Energy content, 151
- Energy expended during SDA, 445
- Energy expenditure, 299
- Energy metabolism, 11, 217
- Enzyme, 11, 53
- Estrogen receptors, 377
- Eumeces chinensis*, 151
- Evaporative cooling, 471
- Evoked potential, 89
- Evolution, 349
- Exercise, 225, 309
- Extra-pineal and extra-retinal photoreceptor, 414
- F-actin, 19
- Faecal corticosteroids, 81
- Fasting, 157, 195, 217, 452
- Fat, 299
- Fatty acid composition, 275
- Fatty acids, 460
- Feeding, 203
- Feeding habits, 67
- Feeding type, 436
- Feeding types, 67
- Field endocrinology, 73
- Fish, 11, 337
- Fish growth, 337
- Fish larvae, 423
- Flight, 53
- Food intake, 151, 165, 396
- Food quality, 165
- Food type, 151
- Foraging, 53
- Fructose, 241
- Gamebird, 157
- Gas solubility, 387
- Gastrointestinal tract, 165
- Gene expression, 396
- Genetic variation, 141
- Geographic variation, 141, 171
- Ghrelin, 217
- GLP-1, 203

# SUBJECT INDEX

Vol. 140A, Nos. 1-4

- Acidic, 363
- Activity capacity, 53
- Adenosine, 111
- Adiponectin, 251
- Adipose tissue, 195
- Aerobic exercise, 409
- Aerobic training, 409
- Agar, 241
- Age, 141, 512
- Alectoris rufa*, 157
- Alginate, 241
- Allocation, 171
- Allometry, 477
- Alopex lagopus*, 251
- American mink, 195
- Aminopeptidase-N, 135
- Amnion, 19
- Amphibians, 165
- Amylase, 29
- Anaemia, 281
- Anaesthesia, 289
- Androgenic gland, 343
- Antarctic fish, 179
- Antioxidant, 487
- Atlantic salmon, 377
- ATP, 11
- ATP-citrate lyase, 117
- Atractosteus*, 423
- Ayu Plecoglossus altivelis*, 414
- Bank vole, 187
- Basal and digging metabolic rates, 329
- Bemisia argentifolii*, 59
- Bioassay, 343
- Biochemistry, 157
- Biomarker, 41
- Biomonitoring, 41
- Bird, 73
- Birds, 512
- Bivalves, 460
- Blood, 157
- Blood cell, 281
- Blood lactate, 409
- Blood pressure, 289
- Blue fox, 251
- Body mass, 157
- Body temperature, 101, 477
- Brain, 396
- Brainstem, 203
- Breathing pattern, 477
- Browser, 67
- Browsing ruminant, 436
- Brycon cephalus*, 337
- Bufo spinulosus*, 165
- $\delta^{13}\text{C}$ , 117
- Calcium affinity, 179
- Calcium-binding protein, 179
- Carbohydrate, 299
- Carbohydrate absorption, 241
- Carbohydrate digestion, 241
- Carbohydrates metabolism, 29
- Carnivores, 195
- Carotenoids, 430, 506
- Carrageenan, 241
- Catalase, 487
- Catecholamines, 289
- Cell culture, 187
- Ceratotherium simum*, 67
- Chameleon embryo, 19
- Chemical composition, 275
- Chemical potential, 387
- Chick, 203
- Cholesterol, 512
- Circadian patterns, 477
- Clams, 460
- CNS, 363
- Co-EDTA, 436
- Cold-acclimation, 217
- Columba livia*, 275
- Compartment models, 436
- Condensed tannins, 67
- Condition index, 41
- Continuous-flow respirometer, 445
- Control of breathing, 477
- Coral snake venoms, 125
- Corticosterone, 73
- Cortisol, 81, 317
- Cost-of-burrowing, 329
- Coturnix chinensis*, 101
- Crab, 495
- Creatine kinase, 225
- Critical thermal maximum, 141
- Cr-mordanted fibres, 436
- Crotalus*, 471
- Crude protein, 337
- Crustacea, 343, 495
- Crustacean, 89
- Crustacean hyperglycaemic hormone, 241
- CTMax, 141
- Cuticular lipid, 59
- Cytochrome *c* oxidase, 487
- Decapoda, 343
- Deferred maturity, 512
- Development, 111, 423, 495
- Diceros unicornis*, 67
- Digestive enzymes, 135, 165
- Digestive strategy, 436
- Digestive theory, 165
- Dimethyl alkanes, 59
- Dissolved oxygen, 387
- Ecto-nucleotidases, 111
- E-F hand protein, 179
- Egg yolk, 430, 506
- Elevation, 171
- Embryo, 452, 495
- Energetics, 53, 171
- Energy content, 151
- Energy expended during SDA, 445
- Energy expenditure, 299
- Energy metabolism, 11, 217
- Enzyme, 11, 53
- Estrogen receptors, 377
- Eumeces chinensis*, 151
- Evaporative cooling, 471
- Evoked potential, 89
- Evolution, 349
- Exercise, 225, 309
- Extra-pineal and extra-retinal photoreceptor, 414
- F-actin, 19
- Faecal corticosteroids, 81
- Fasting, 157, 195, 217, 452
- Fat, 299
- Fatty acid composition, 275
- Fatty acids, 460
- Feeding, 203
- Feeding habits, 67
- Feeding type, 436
- Feeding types, 67
- Field endocrinology, 73
- Fish, 11, 337
- Fish growth, 337
- Fish larvae, 423
- Flight, 53
- Food intake, 151, 165, 396
- Food quality, 165
- Food type, 151
- Foraging, 53
- Fructose, 241
- Gamebird, 157
- Gas solubility, 387
- Gastrointestinal tract, 165
- Gene expression, 396
- Genetic variation, 141
- Geographic variation, 141, 171
- Ghrelin, 217
- GLP-1, 203

- Glucocorticoids, 73  
 Gluconeogenesis, 337  
 Glucose, 317  
 Glucosidase, 29  
 Glutamate receptors, 363  
 Glutathione reductase, 487  
 L-glutamate uptake, 125  
 Glycogen, 241  
 Gompertz growth constant, 101  
 Gonad development, 512  
 Gonadal development, 414  
 Gonadosomatic index, 414  
 Granulosa cells, 187  
 Grazer, 67  
 Grouper, 317  
 Growth, 171  
 Growth hormone, 217, 423  
 Growth hormone secretagogues, 396  
 Gut, 396  
 Gut size, 165  
  
 Haematocrit, 289, 317  
 Haemoglobin, 317  
 Haemolymph glucose, 241  
 Hair cell, 89  
 Hearing, 89  
 Heart, 363  
 Heart rate, 19, 289  
 Heat dissipation, 477  
 Heat production, 101, 299  
 Heat shock, 209  
 Heat shock protein 70, 209  
 Heat tolerance, 141  
*Hemigrapsus*, 495  
 Hexokinases, 29  
 High hydrostatic pressure, 387  
 Homeostasis, 309  
*Hoplias malabaricus*, 281  
 Hormones, 396  
 Host-marking, 59  
 hsc70, 209  
 hsp30, 225  
 hsp70, 225  
 Hsp70, 209  
 hsp90, 225  
 Hydrocarbons, 59  
 Hydrolysable tannins, 67  
 Hyperthermia, 309  
 Hyperthyroidism, 111  
 Hyperventilation, 309  
 Hypocapnia, 309  
 Hypoxia, 233  
 Hypoxia tolerance, 349  
 Hypoxic bradycardia, 233  
  
 Intestine, 452  
 Intraspecific, 171  
 Intraspecific energetics, 329  
  
 King quail, 101  
  
 Lactate, 317  
 Lactate threshold, 409  
 Lateral eyes, 414  
 Latitude, 141  
  
 Leptin, 217  
 Leukopenia, 281  
 LH, 187  
 Life history, 171  
 Life history tactic, 11  
 Line-capture, 317  
 Lipid content, 151  
 Lipogenesis, 117  
 Liposome-disrupting activity, 125  
 Liver, 430, 452  
 Low salinity, 317  
 Low-altitude population, 349  
  
*Macrobrachium malcolmsonii*, 209  
 Malic enzyme, 117  
 Maltase, 135  
 Management, 157  
 Marsupials, 81  
 Matrxã, 337  
 Meal size, 445  
 Mean retention time, 436  
 Melatonin, 217  
 Metabolic adaptation, 337  
 Metabolic rate, 101, 445  
 Metabolism, 53, 171, 337  
 Metabolites, 337  
*Micrurus lemniscatus carvalhoi*, 125  
*Micrurus* sp., 125  
 Molluscs, 460  
 Motility, 11  
 Mouse, 217  
 Mud crab, 343  
 Muscle, 179  
 Mussel, 41  
*Mustela vison*, 195  
 Mustelids, 195  
 Myotoxicity, 125  
*Mytilus galloprovincialis*, 41  
  
 Na<sup>+</sup>/K<sup>+</sup>-ATPase, 495  
 Natricinae, 141  
 Neuromuscular junction, 363  
 Neurotoxicity, 125  
 Nociception, 111  
 Nutrient oxidation, 299  
 Nutrition, 67, 337, 460  
  
*Okapia johnstoni*, 436  
*Oreochromis niloticus*, 117  
 Osmoregulation, 495  
 Ossification, 512  
 Ovarian development, 343  
 Ovary, 187  
 Oxygen consumption, 151  
 Oysters, 460  
  
*Palaemon serratus*, 89  
 Panting, 309  
 Panulirid lobster, 241  
 Parasitoid behavior, 59  
 Partial pressure, 387  
 Parvalbumin, 179  
 Passage rate, 436  
 Peak  $\dot{V}O_2$ , 445  
 Pectoralis, 53  
  
 Penaeid shrimp, 29  
 Peptide, 396  
 Peptide YY, 251  
 Peripheral blood flow, 477  
 Phenotypic flexibility, 165  
 Phenotypic plasticity, 135  
 Phospholipase A<sub>2</sub>, 125  
 Photoperiod, 187  
 Photoperiodism, 414  
 Physiological index, 41  
 Pig, 299  
 Pineal complex, 414  
 Pituitary, 396  
 Plasma chemistry, 512  
 Polar, 487  
 Prawn, 209  
 Progesterone, 187  
 Proglucagon, 203  
  
 Q<sub>10</sub>, 487  
 Quail, 430  
  
 Rainbow trout, 225, 452  
 Rat, 299, 409  
 Rattlesnake, 471  
 Recovery, 289  
 Red blood cell, 281  
 Red-legged partridge, 157  
 Re-feeding, 281  
 Refeeding, 157  
 Regulation, 460  
 Repeatability, 349  
 Reproduction, 343  
 Reptile, 73  
 Retinol and Retinyl esters, 430  
*Rhinoceros unicornis*, 67  
 Rhythmic contractions, 19  
 Rock dove, 275  
  
 Salinity tolerance, 495  
 Saliva, 67  
 Salivary tannin-binding proteins, 67  
 Salmon, 289  
 Saturation binding assay, 377  
 Sceloporus, 171  
 Scincidae, 151  
*Scylla paramamosain*, 343  
 SDA duration, 445  
 Secondary plant compounds, 67  
 Secretion mass, 275  
 Sensory system, 89  
 Sex steroids, 414  
 Shallow water, 317  
 Sheep, 309  
*Silurus meridionalis* Chen, 445  
 Size dimorphism, 101  
 Smooth muscle, 19  
 Snapper, 289  
 Spain, 157  
 Specific dynamic action, 151, 445  
 Sperm competition, 11  
 Starvation, 281, 299  
 Steroid dehydrogenase, 187  
 Stress, 73, 81, 225  
 Stress protein, 209

## Subject Index

- Stress proteins, 225  
Stress response, 317  
Subterranean mammals, 329  
Sucrose, 241  
Superoxide dismutase, 487  
Survival in air, 41  
Synaptosome, 125
- $T_3$ , 452  
 $T_4$ , 452  
Tammar wallaby, 81  
Tannin, 67  
Teleost, 487  
Teleost fish, 179  
Temperature, 19, 141, 179, 377  
Temperature control, 477  
Thermal conductance, 101  
Thermal physiology, 141
- Thermal stress, 209, 329  
Thermal tolerance, 209  
Thermoregulation, 309, 471  
Thrombocytopenia, 281  
Thyroid hormone receptor, 452  
L-thyroxine, 111  
Tissues, 506  
Total peripheral resistance, 233  
Training intensity, 409  
Training protocol, 409  
Transplantation, 41  
Treadmill, 409  
Trophic shift, 117  
Tropics, 53
- Urinary nitrogen, 299  
Uropygial gland, 275
- Variation, 349  
Venice lagoon, 41  
Venous pooling, 233  
Venous pressure, 233  
Ventilatory adaptation, 349  
Vitamin E, Free-range, Wild, 506
- Wasp, 59  
Wild animals, 73  
Wintering, 195
- Xenopus laevis*, 135
- Yellow-legged gull, 512

# AUTHOR INDEX

*Vol. 140A, Nos. 1-4*

- Abel, H.-J., 117  
Aguilera, C., 423  
Aho, J., 195  
Aida, K., 414  
Alonso-Alvarez, C., 512  
Amara, S., 125  
Anderson, T., 317  
Arantes, E.C., 125  
Asikainen, J., 195  
Axelsson, M., 233
- Badre, N.H., 363  
Ballantyne, J.S., 487  
Barrera Saldaña, H., 423  
Barreto-Chaves, M.L.M., 111  
Becker, K., 117  
Black, S.E., 289  
Bonan, C.D., 111  
Borja-Oliveira, C.R., 125  
Borrell, B.J., 471  
Bozinovic, F., 165, 329  
Brito, R., 29  
Bruno, A.N., 111  
Buckner, J.S., 59  
Burness, G., 11, 53
- Cameron, C., 452  
Cao, Z.D., 445  
Caola, G., 477  
Carter, M.J., 329  
Carvalho, J.F., 409  
Castell, J., 67  
Cecchini, A.L., 125  
Chardine, J.W., 53  
Chimal, M.E., 29  
Chu, K.H., 343  
Chwalibog, A., 299  
Clarke, J.R., 187  
Clarkson, K., 225  
Clauss, M., 67, 436  
Cooper, R.L., 363  
Crema, L.M., 111  
Cui, Z., 343  
Currie, S., 225  
Cuzon, G., 29
- Dalmaz, C., 111  
Darveau, C.-A., 53  
Davison, W., 241  
Deane, E.M., 81
- Delaporte, M., 460  
Dierenfeld, E.S., 67  
Du, J.-Z., 257  
Dudley, R., 471  
Dummy, 1
- Ebensperger, L.A., 329  
Entin, P.L., 309  
Erickson, J.R., 179
- Fahlman, A., 349  
Farfán, G., 165  
Fernandes, M.N., 281  
Fickel, J., 67  
Findlay, M.M., 89  
Flach, E.J., 67  
Focken, U., 117  
Fontella, F.U., 111  
Forster, M.E., 289  
Frisch, A., 317  
Fu, S.J., 445  
Furuse, M., 203
- Galas, J., 187  
García, T., 29  
Garza Rodriguez, M.d.L., 423  
Gaxiola, G., 29  
Gaye-Siessegger, J., 117  
Gehrke, J., 67  
Geraghty, D.P., 377  
Geraldine, P., 209  
Giglio, J.R., 125  
Grammenidis, E., 430  
Gutiérrez, A.M., 275
- Hasegawa, S., 203  
Hatt, J.-M., 67  
Hermes, R., 67  
Hernández Montenegro, V., 423  
Hiramatsu, K., 203  
Hummel, J., 436
- Iigo, M., 414  
Inoue, L.A.K., 337
- Jackson, S., 349  
Jakobsen, K., 299  
Jerrett, A.R., 289  
Ji, X., 151  
Johanson, K., 436  
Jones, W.A., 59
- Kalinin, A.L., 281  
Karadas, F., 430, 506  
Keck, M.B., 141  
Kieffer, J.D., 225  
King, H.R., 377  
Korhonen, T., 217  
Kraffe, E., 460
- LaDuc, T.J., 471  
Leatherland, J.F., 452  
Liu, H., 343  
Lo, T.S., 343  
López-Pinto, C., 135  
Lovell, J.M., 89  
Lu, H.-L., 151  
Ludwig, H., 387  
Luśnia, D., 101
- Ma, X.-M., 151  
Macdonald, A.G., 387  
MacKenzie, D.S., 452  
Makarenko, I.G., 19  
Marangon, I., 41  
Marcussi, S., 125  
Marsden, I.D., 241  
Martin, M.E., 363  
Marty, Y., 460  
Masuda, M.O., 409  
Masuda, T., 414  
McKenzie, S., 81  
Méndez, M.A., 165  
Mendoza, R., 423  
Moal, J., 460  
Moate, R.M., 89  
Moerland, T.S., 179  
Mononen, J., 195  
Montalti, D., 275  
Montgomerie, R., 11  
Moraes, G., 337  
Mortola, J.P., 477  
Moyes, C.D., 11  
Mustonen, A.-M., 195, 251  
Myburgh, K.H., 349
- Nasci, C., 41  
Naya, D.E., 165  
Nechaeva, M.V., 19  
Nieminen, P., 195, 251  
Nørgaard, C., 436
- Oba, E.T., 281

Author Index

- Paakkonen, T., 195  
 Pampanin, D.M., 41  
 Pan, Z.-C., 151  
 Pankhurst, N.W., 377  
 Paredes, A., 29  
 Peter, R.E., 396  
 Pfeffer, E., 436  
 Piccione, G., 477  
 Pis, T., 101  
 Pompeu, F.A.M.S., 409  
 Pyykönen, T., 195, 251  
  
 Radford, C.A., 241  
 Raine, J.C., 452  
 Rantin, F.T., 281  
 Rawson, R.E., 309  
 Reboredo, G., 275  
 Reed, J.M., 73  
 Revol, A., 423  
 Rios, F.S., 281  
 Riveros, J.M., 135  
 Robertshaw, D., 309  
 Rodrigues-Simioni, L., 125  
 Rodríguez, P., 157  
 Romero, L.M., 73  
 Rosas, C., 29  
 Rothwell, S.E., 289  
 Ryökkönen, A., 195  
  
 Saarela, S., 217  
 Sabat, P., 135, 165  
 Salibián, A., 275  
 Samain, J.-F., 460  
 Sandblom, E., 233  
 Sarkis, J.J.F., 111  
 Sears, M.W., 171  
 Selvakumar, S., 209  
 Seneviratna, D., 495  
 Sidell, B.D., 179  
 Silveira, L.B., 125  
 Soares, A.M., 125  
 Soltys, Z., 187  
 Soto, L., 29  
 Soudant, P., 460  
 Sparks, N.H.C., 430, 506  
 Speers-Roesch, B., 487  
 Stäbeli, R.G., 125  
 Stoklosowa, S., 187  
 Streich, W.J., 67  
 Sugahara, K., 203  
 Surai, P.F., 430, 506  
  
 Taboada, G., 29  
 Tachibana, T., 203  
 Tauson, A.-H., 299  
 Taylor, H.H., 241, 495  
 Terblanche, J.S., 349  
  
 Thorbek, G., 299  
 Tolley, K.A., 349  
 Tortosa, F.S., 157  
 Tsitrin, E.B., 19  
  
 Unniappan, S., 396  
  
 Van Wormhoudt, A., 29  
 Vieira, V.P., 337  
 Vijayan, M.M., 452  
 Villafuerte, R., 157  
 Volpato, E., 41  
  
 Watts, M., 377  
 Winne, C.T., 141  
 Wood, N.A.R., 506  
  
 Xie, X.J., 445  
  
 Yan, H.Y., 89  
 Yoshizawa, F., 203  
  
 Zhdanova, N.P., 19  
 Zhou, Z.-Q., 257  
 Zimmermann, W., 436



